REMARKS/ARGUMENTS

Reexamination of the captioned application is respectfully requested.

A. SUMMARY OF THIS AMENDMENT

By the current amendment, Applicant basically:

1. Amends claims 1, 7, 9, 16, 17, 18, 20, 21, 26, 28 and 35-37.
2. Respectfully traverses all prior art rejections (see § B infra).
3. Advises the Examiner of the simultaneous filing of an IDS citing U.S. Patent 4,309,605 to Okabe.
4. Requests a telephonic interview (see § C infra).

B. PATENTABILITY OF THE CLAIMS

In the outstanding Office Action, the Examiner again rejected claims 1-17 and 35 as being anticipated by Metlitsky (US 5,233,170). The Examiner further rejected claims 18-34, 36 and 37 as being unpatentable over Metlitsky in view of Gurevich (US 5,969,323). All prior art rejections are respectfully traversed.

CLAIMS 1-17, 35

The Examiner persists in equating the claimed diaphragm to the Fresnel lens 200 of Metlitsky. The Examiner further asserts that items 38, 36 and 34 of Metlitsky can be considered a diaphragm.

The Applicant still vigorously disagrees with the Examiner's opinion. The Fresnel lens 200 of Metlitsky acts only on the returning reflected light and is used to increase the efficiency of light collection (see column 8, lines 49-50). So collection of reflected light is the actual function of the lens 200. Clearly, the lens 200 does not serve as a diaphragm

which selects a central portion of the laser light beam so that only the central portion is propagated while the remaining portion is obstructed.

The assertion that Metlisky's items 38, 36 and 34 can be considered a diaphragm is also manifestly incorrect, regardless of how it is interpreted. It is not clear whether the Examiner's assertion is that all these items can be considered as a single element which serves as a diaphragm. Should the Examiner's assertion be thus construed, it is technically incorrect and inconsistent. In this regard, Metlistsky's focusing lens 34 and aperture stop 36 act on the optical path of the outgoing laser beam 24 generated by the laser diode and serve to focus this laser beam to a beam spot onto the reference plane containing the symbol to be read (see column, lines 15-19). On the other hand, Metlitsky's collecting lens 38, as well as the Fresnel lens 200, act on the optical path of the returning reflected light 42 and serve to focus the reflected light 42 onto the monitor photodiode 28. Thus, it is clear to a skilled person that items 38, 36 and 34 act on different optical oaths and serve different specific purposes. Therefore, it is not technically correct to consider items 38, 36 and 34 as a single element which serves as a diaphragm.

Nor can any one of Metlitsky's elements 38, 36, or 34 be the claimed diaphragm. Actually, the only item of Metlitsky which serves as a diaphragm is the aperture stop 36. This aperture stop actually selects a central portion of the laser light beam so that only this central portion of laser light beam is propagated while the remaining portion is obstructed. However, this aperture stop is located downstream of the package 10 of the laser diode. Differently, the Applicant's claims 1, 17 and 35 require that the package of the light emission source comprises the diaphragm.

In this respect, the element of Metlitsky which corresponds to the package of the Applicant's invention is Metlitsky's package 10 defined by the casing 12 and not the tubular element shown in Metlitsky's Fig. 3 and following. This is clear by Applicant's

definition of package given on page 2, lines 17-26 and on page 7, lines 1-30 of the application as originally filed.

To better highlight these already-claimed distinctions over Metlitsky, Applicant now amends independent claims 1, 16, 17 and 35 in four aspects. These four aspects are essentially as follows:

i) the claimed package is the protective and/or insulating package of the light beam emission source;

ii) the diaphragm defines an aperture for selecting a central portion of the generated laser light beam and that this central portion of the generated light beam is propagated out of the package;

iii) the central portion of the generated light beam which is propagated out of the package has a predetermined diffraction pattern; and,

iv) only the selected central portion of the generated laser light beam passes through the emission window of the package.

Items i) and ii) stress that the diaphragm is part of (or is located within) the protective and/or insulating package of the light beam emission source so that the selection of the central portion of the generated light beam is carried out at this package. This is quite different from Metlitsky wherein the diaphragm is located downstream of the package 10 of the laser diode and the selection of the central portion of the generated light beam is carried out downstream of the package 10.

Item iii) highlights that Applicant controls the diffraction pattern of the emitted light beam. See, for example, the application as originally filed, see page 3, line 27 to page 4, line 24 and page 8, Line 15 to page 9. line 6.

Item iv) has been specified to make clear that in the Applicant's invention only the selected central portion of the generated laser light beam passes through the emission window of the package of the light beam emission source and not also the returning light reflected by the optical code. By contrast, in Metlitsky either the outgoing laser beam 24 and the returning reflected light 42 pass through the emission window 14 of the package 10.

In addition thereto, the dependencies and consequential wording of claims 7 and 9 have been amended accordingly.

Independent claims 1, 16, 17 and 35 are now palpably patentable over Metlitsky.

CLAIMS 18-34, 36, 37

Claims 18-34, 36 and 37 basically relate to an optical device for emitting/detecting a luminous signal, comprising a light beam emission source including a package. The package comprises a first portion which houses the means for generating the light beam and a second portion which houses the photo-receiving means. The first and second portions are optically separate from each other. These claims therefore require housing either the means for generating the light beam and the means for detecting the light beam diffused by the illuminated optical code into optically separate portions of the package of the light source. This structure provides a small-sized reader which avoids mixing of the emission and collecting light beam, which mixing would cause the photodiode to be directly hit from the emission light beam.

The Examiner rejected claims 18-34, 36 and 37 over the combination of Metlitsky and Gurevich. Specifically, the Examiner properly acknowledged that Metlitsky fails to teach or fairly suggest that light emitting source and light receiving device are optically separated. However, the Examiner stated that Gurevich teaches an outgoing beam and a reflected beam which do not overlap, and alleged that separating an outgoing beam and an incoming beam is a well-known method and widely used in optical reader.

As to Gurevich, Applicant reiterates that the claimed package is the protective and/or insulating package (or capsule) of the light source. Indeed, Applicant claims a light beam emission source which includes a package. Thus, the claimed package is part of the light beam emission source and, specifically, it is the protective and/or insulating capsule disclosed, e.g., on page 2, lines 17-32 of the application as originally filed. Therefore Gurevich is absolutely NOT pertinent to the Applicant's invention.

Gurevich shows an outgoing beam and a reflected beam which do not overlap within the external case. But Applicant's structure of these claims avoids overlapping of an outgoing beam and a reflected beam within the package of the light source. Since Gurevich does not show the returning light going into the light source 3, Gurevich is NOT pertinent to the Applicant's invention.

Applicant's newly cited reference, U.S. Patent 4,309,605 to Okabe, discloses a photo-reflective sensor which comprises, within the protective and/or insulating package thereof, a light-emitting element and a light-detecting element. The light-emitting element and the light-detecting element are housed into respective portions of the package and are optically separated by a light blocking wall. Each portion has a respective window. The windows are provided on the same plane.

To better highlight the already-claimed distinction over Metlitsky, Gurevich, and Okabe, Applicant amends independent claims 18, 36 and 37 essentially in the two following ways.

i) the claimed package is the protective and/or insulating package of the light beam emission source; and,

ii) the emission and collecting windows are formed on respective walls of the package which lie on different planes.

Item i) stresses that the claimed package is the protective and/or insulating package (or capsule) of the light source.

Item ii) differentiates the claimed subject matter by, e.g., specifying that the emission and collecting windows are formed on different planes. By contrast, note that in Okabe (for example) the emission and collecting windows are formed on the same plane.

None of the applied prior art teaches or suggests a package of a light source with emission and collecting windows formed on different planes. Independent claims 18, 36 and 37 are therefore clearly patentable over the cited prior art.

In addition thereto, the dependencies and consequential wording of claims 26 and 28 have been amended.

In view of the foregoing and other considerations, a formal indication of allowance is earnestly solicited.

C. REQUEST FOR TELEPHONE INTERVIEW

The undersigned spoke telephonically with Examiner Kim on March 16, 2004, at which time it was agreed that the Examiner would contact the undersigned and arrange a telephonic interview after this Amendment has been received by the Examiner and before acting further on this application.

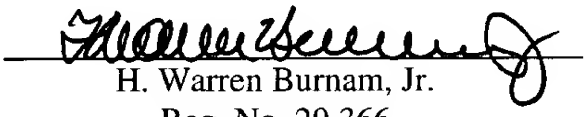
D. MISCELLANEOUS

In view of the foregoing and other considerations, a formal indication of allowance is earnestly solicited.

The Commissioner is authorized to charge the undersigned's deposit account #14-1140 in whatever amount is necessary for entry of these papers and the continued pendency of the captioned application.

Respectfully submitted,

NIXON & VANDERHYE P.C.

By: 
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